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ABSTRACT

Every 6 years the number of Ph.D.'s produced doubles. At this point about 1 percent of the babies born 27 years ago gets a Ph.D. This production rate will probably increase to 6 percent of the adult population. With the present situation in higher education, which includes an average retirement after 40 years of service, the supply already outstrips the demand. The problem is, however, that the birthrate is declining, so freshmen enrollment in 1985 will be 20 percent less than freshmen enrollment in 1975. To deal with this future surplus of Ph.D.'s, students must be warned that a Ph.D. does not entitle them to a scholarly job. Students could also be kept longer out of the labor market by prolonging the time it takes to get a Ph.D., by increasing the number of post-doctoral programs, or by creating a new and more advanced degree. Another possibility would be the establishment of central government controls for the selection of prospective Ph.D.'s and their disciplines. Control could also be exerted by faculty organization that could establish new hiring and retirement policies. Also, foreign graduate students should be allowed to study here only if they intend to return to their native country upon graduation. A final solution may be the establishment of federally supported centers and institutes where Ph.D.'s could do high quality research. (AF)

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THE PH.D. SURPLUS - REALITIES AND ILLUSIONS*

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DR. HAROLD P. HANSEN: I feel a little like Bryce Crawford who, in a meeting after a social hour swayed slightly and said, "I don't know anyone better qualified than I to address this drunken audience." (Laughter)

At the risk of making you completely weary

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39

of the subject, I want to say a few more words about the Ph.D. surplus. My compulsion to talk isn't as great as it was before Dean Deener's talk this afternoon because I find that he and I at least share the non-popular, non-party line point of view.

I do not believe--and apparently Dean Deener doesn't either--that if we do good deeds and wait patiently for a while, that our Golden Age will return.

As a physicist, I have been aware of the doctoral surplus problem early and acutely. Further, as a physicist, I was a man inclined toward believing what the numbers say. The numbers have a message and it is that for many traditional disciplines the ball game has changed irrevocably, irreversibly, and irretrievably. We must play under a whole new set of ground rules.

Most of what we heard yesterday about the difficulty of detailed prediction and other things like this, because of the continued state of flux in academia, it is true, but it is immaterial. The significant transitions have already occurred and they have been ponderously continuous.

I would have liked to have shown you some slides that would have indicated the sweep and the surge

of history, so I hope you will let me try to paint a few word pictures for you, and they will be done with a very broad brush. But there will be a basic accuracy. The picture is formed from the statistics of babies already born and social and educational patterns already established.

The data indicates that about 40 per cent of the babies born 18 years ago start college. Further, the data indicate that about one per cent of the babies born 27 years ago are getting doctorates. The present doubling time of doctoral production is six years. Every six years we double the number of Ph.D's. we are producing. My estimate is that the doctoral production rate will level off at not less then 6 per cent of the adult population; we are now at one per cent and rising.

One fact that is usually overlooked by people who wonder how this could be happening, it is this: That the lifetime of a student in the university is, let's say, four years; the lifetime of a faculty member is 40. This factor of ten produces the effect of faculty pileup.

Consider this: If we made the completely irrational assumption that we are at equilibrium now, that is, the Ph.D. production rate levels off at the present

one per cent, and we keep roughly the present student to staff ratio in higher education with all teachers, administrators, support personnel having Ph.D's., our academics could retire after the standard 40 years of service if no more master's degree people were hired.

Since seven or eight times as many master's are produced as Ph.D's., this might be a little hard on them. And remember, the junior colleges that are part of the market that I am speaking of might not want our Ph.D's. unless they can have them at master's salaries. And they may not even want them then.

I judge that in terms of keeping something of the present situation, that a reasonable retirement time would be after ten or fifteen years of service. When the doctoral production rises to the minimum figure of 6 per cent as I cited, we can retain our present retirement policies if Ph.D's. teach every class of every grade down through kindergarten. (Laughter) Of course, this leaves slim pickings for the bachelor's recipients as well as the master's. (Laughter)

Now picture with me a plot, the demand for doctorates--in higher education, now--and the supply of these doctorates. The demand curve is the differential

of a sigmoidal curve, so you produce a dirth of need which rapidly tapers off because old faculty occasionally die, but they never fade away. (Laughter)

But the supply curve which reacted in response to the demand curve built up momentum and now, like the salt mill that folklore assures us lies at the bottom of the sea, the system continues to grind out more and more Ph.D's. with inexorable persistence.

There is one other--perhaps it is a melancholy fact that was pointed out yesterday. The absolute birth rate itself is now decreasing. As a result of this, there are empty grammar schools at various places around this nation. Elementary school teachers are having a harder time finding jobs than our Ph.D's. In about five years we in the colleges will start to feel the effects of this and by 1985 we will be getting 20 per cent less freshmen enrollment than in 1975.

I guess it is sort of ironic that roughly the same date in history produced, through Sputnik, the stimulant to Ph.D. production and at the same time, through the Pill, the depressant to population production. (Laughter)

Well, what I have given you are the salient

demographic facts to live with. What can be done about them? Perhaps nothing. But we have got to try.

Actually ours is at least a partially self-correcting system and I presume some personal adjustments are being made at this time. This doesn't diminish our responsibility to try to relieve the situation and to help to relieve it in such a fashion that will not deal a mortal blow to scholarship and to graduate education as we know it.

There are ugly possibilities, as Dean Deener indicated, that are raised by the conflicting demands of the Ph.D's. for new positions, by the requirements of the disciplines for new blood, by the need to retain the services of those who are truly creative and productive, and by the prerequisites of people like us, the older faculty. It requires no great imagination to envisage economy conscious regents and administrators dismissing resident faculty and replacing them by younger, cheaper, possibly better new applicants.

A five- or six-year academic career which fits within the AAUP tenure guidelines may become the standard. (Laughter) A man dropped by his school, through no real fault of his own, will find that no school is

willing to pick him up. The requirement of fractional transfer of tenure-accruing years may have to be relaxed. In fact, the whole concept of tenure may have to be fought out and thought out again.

I am going to try to offer a few solutions, but before I offer you any of these let me say a few words about non-solutions, things that won't work or won't make any difference, except in detail.

One, ending the Vietnam War won't make things any different.

Two: Ending the administrative tight money policy won't make things any different.

Three: Stepping up or stepping down the space activities will have little overall effect.

Four: Getting a different administration won't affect things. (Laughter)

Five: Cutting the number of Fellowships won't work. It only affected the top people anyway.

Six: Offering a different doctoral degree will, if anything, produce more doctorates and really no more jobs.

Seven: Giving more relevant doctoral training makes good academic sense, but it will not

produce jobs or fewer doctorates for the academic arena.

Eight: It would seem that we could bite the bullet and limit our enrollment. Some schools are doing so, but most of us won't. By and large, you and I are programed for growth and we understand no other concept. And if we or our successors do understand, we still have the phenomena of the flood tide of Ph.D. students. It will have its minor ebbs and flows, but politics and economics make inevitable the proliferation of Ph.D. programs to accommodate the demand.

You and I will probably try to hold back this effect by taking in more students ourselves, but it won't work--or it will work. As I said, probably nothing, because I see little that can prevent us from having, let's say, 6 per cent of our adults getting the doctorate.

I will try to offer some palliatives, and there will be little in what I say that will carry any value judgments. We are in a moment of a crisis of a sort, at least, and some of the solutions offered will not maintain our academic prerequisite to the extent that one would wish would be the case, but they may be quite necessary.

First and most obvious, of course, we must

96

be absolutely honest with our students and ourselves about their prospects and their abilities. This may not do much good because the educational pattern that we have established gives the student little choice but to go on and on. But he must not be subjected to the cruel hoax of believing that his Ph.D. entitles him to a scholarly job, or that his Ph.D. from an emerging university entitles him to any job at all.

He had better be educated to believe that he is getting his doctor's degree because it is a very civilized thing to do. (Laughter)

There is the further problem that suppose we are honest with the student, tell him what his chances are. The single-minded, mediocre student that we rejected will find someone at some school that will accept him as a student. So the value in this first suggestion of honesty lies in the fact that we will feel better.

Now the most direct way of decreasing the number of potential teachers and increasing the number of jobs available to teachers is by letting the students go on to the labor markets less rapidly. This can be accomplished through three methods:

A: Extending the period of time for a

student to get a Ph.D. (Laughter) This is in direct contrast to what is the usual policy, but it is a doubly effective procedure because it keeps more students and there are fewer to go out looking for jobs. This may be contrary to the Carnegie Commission recommendation, and many, many other recommendations, but I am talking about the practicalities of this particular problem.

The second thing that could be done is increase the number of post-doctoral programs. This is also doubly wise. First, it provides part of the market for Ph.D's. that is needed, and secondly, the professor with a research program would have someone to work with which should assuage his need for graduate students. He could be more selective about who he takes on as a student. (Laughter)

The third thing is creating a new and more advanced degree. This may or may not be concomitant with the previous proposal, but an S.D., the super doctorate, will let us start all over again. (Laughter)

Now this is about the only innovative thing that we could do that is within our power--but we won't. (Laughter) Why? Because we lack the super doctorates ourselves. (Laughter)

Now a third practical suggestion is the development of central controls. It may be anathema to most of us, but it is certainly conceivable that to prevent chaos the government will select prospective Ph.D's., will select their disciplines, and will select the geographic area in which they will function.

The other mechanism of central control might be provided by faculty organizations. As much as many of us recoil at the thought, it may be necessary to really develop labor unions for professors instead of this game they are playing now.

Such an organization would be necessarily not so much for collective bargaining purposes; rather, they would be needed to introduce a measure of discipline in the profession. Even if unions of some strength do develop, there surely will be scab Ph.D. labor. (Laughter) This will have to be controlled.

On the other hand, one should not probably downgrade the collective bargaining function. The organization could play a central role in forcing a fresh and trenchant look at retirement policies. I have indicated that to create a dynamic stability, earlier retirement is indicated for the vast majority of our professors.

Reducing the figure by a few years will have little effect. I think that a retirement at the age of 50 would be a first order of proximation to the right retirement age for a while.

Now the fourth suggestion I have is difficult. Over the years many foreign graduate students have been brought to this country, but now the scene has changed and common sense dictates that we not import foreign graduate students unless we are certain they will return to their native land after they get their degree. This has not been the pattern.

Common sense also dictates that so far as post-doctoral positions are concerned, it would be preferable to use them for our indigenous, indigent Ph.D's.--(laughter)--unless there is some overriding reason for doing otherwise.

Five: There is one realistic and obvious solution to the problem. It involves, of course, some money, but not a vast amount. The form of this obvious solution is this: We must have a W.P.A. for Ph.D's. (Laughter) The mechanism that this W.P.A. assistance would take would be through federally-supported centers and institutes. The world already provides us with prototypes

to emulate. In this country we have our government laboratories--they have been spotty in quality, but enough excellent work has been produced to show that under the right conditions and philosophy, scholarship can flourish.

In Europe some of the most distinguished scientists are found in institutes. The Max Planck Institute in Germany provides the home base for an elitist corps of scholars.

Within American academia we already have models that can be replicated. In the area of research where the capital equipment cost is excessive, the government has established institutes at universities where this high cost research is carried out. Examples, of course, are Slack at Stanford, the Forrestal Laboratory at Princeton, the jet propulsion laboratory at Cal Tech. Now this large, governmentally-supported institute concept should be extended to the humanities and the social sciences.

One can envisage a day--and not too far from now--when beside every million-volume library there will be institutes for the study of all manner of humanistic and sociological topics. These places would be centers of scholarship and would have all the research activity prerequisites and the programs of universities, except they should not be permitted to produce further Ph.D's.